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ABSTRACT

This policy paper argues that maintaining the universities' role--that of creating and transmitting knowledge over a broad spectrum of disciplines and professions--and supporting the institutional infrastructure, will require a new definition of the Canadian government responsibility in financing universities. Sources of university funding in Ontario for 1979-80 are analyzed. A disquieting trend toward earmarking funds, which reduces flexibility and could affect quality in core activities, is noted. It is recommended that the federal government and the Council of Ministers of Education join to form a Canadian Advisory Council for Higher Education and Research with statutory responsibilities for specific policies and programs. It is also proposed that direct federal funding be confined to four categories: limited engagement in manpower planning, student assistance, research, and some specific federal concerns related to defense, international affairs, culture, and language. The government contention that special funding for externally proposed university programs would improve advanced manpower training is rejected. Special alternatives for federal assumption of student assistance responsibilities are suggested, and proposals are made for assistance in core and supplementary research. Four reports are appended: "Where Do Canadian Universities Stand in Public Priorities," a committee discussion paper; sources of university revenue, 1979-80 (data tables); the Association of Universities and Colleges of Canada response to a government report on manpower development; and a critique of another government report on employment opportunities. (MSE)

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FEDERAL-PROVINCIAL RELATIONS
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EXECUTIVE SUMMARY

The Council of Ontario Universities' policy paper on federal-provincial relations and support for universities develops from a description of the core undertaking of universities: the creation and transmission of knowledge and skills across a broad spectrum of disciplines and professions. It argues that maintaining this role for universities, and supporting the institutional infrastructure on which it must be based, will require a new definition of the respective responsibilities of the provincial and federal governments in the financing of universities.

To show the complexity of the current pattern of support, the paper analyses sources of university funding in Ontario for 1979-80, where total capital and operating expenditures plus student aid amounted to approximately \$1.5 billion. Council notes a disquieting trend toward earmarked funds. Such funding reduces flexibility and could adversely affect the universities' ability to maintain quality in their core activities. Further, it implies an unacceptably limited view of the university as an agency which responds on demand to particular short-term societal and governmental needs.

Although sounding certain cautionary notes, the brief states that the universities are not opposed to changes in federal-provincial fiscal arrangements or in methods of public funding for universities. They are fully prepared to acknowledge the sources of funding, and to account properly for their expenditures. Council welcomes the stated federal intention to maintain transfers to the provinces to support the overall infrastructure of post-secondary institutions. It urges the federal and provincial governments to continue their negotiations on post-secondary education in a spirit of co-operation, but stresses that the development of specific policies and programmes for funding should be undertaken by the two levels of government in consultation with the universities. In view of the ongoing need for full and broad consultation, Council recommends that the federal government and the Council of Ministers of Education jointly create a Canadian Advisory Council for Higher Education and Research with statutory responsibilities.

Council proposes that direct federal government involvement in the funding of post-secondary education be confined to four categories: limited engagement in manpower planning, student assistance, research, and some specific federal concerns as related to defence, international affairs, culture and language. Council rejects the contention of a federal government report that special funding for externally identified university programmes would substantially

improve the ability of universities to train highly qualified manpower. Only concomitant continuing support for core university programmes will make this possible. Given the success rate of past manpower planning in Canada, universities would be unwise to lock themselves in a system of priorities based on apparent present and anticipated future labour market shortages. Direct intervention by the federal government should be confined to initiatives of limited duration designed to alleviate particular bottlenecks in the supply of highly qualified manpower.

The COU paper proposes several alternatives by which the federal government could assume major responsibility for a national student assistance plan. But this should not be at the price of less federal support for the university infrastructure.

Because university research -- the extension of knowledge and understanding of the natural world and of man's history and culture -- is an essential part of the core undertaking of universities, the COU paper reviews the major elements of financial support for research and emphasizes that a proper balance should be maintained among them.

The need to differentiate between core research and supplementary research is stressed. Core research costs could be apportioned

between the two levels of government by having provincial governments take full responsibility for the capital costs of the physical plant, for faculty salaries and for all the indirect costs, with the federal government taking responsibility for all the direct costs of core research projects, including major equipment and support for trainees. The indirect costs of research should be underwritten fully by the federal government through transfer payments. In the case of supplementary research, that dedicated to specific goals identified by a sponsor, the sponsor should cover all direct and indirect costs.

The current climate of uncertainty over the roles of the federal and provincial governments in the support of Canada's universities is having a very unsettling effect on institutions already weakened by recent declines in support. It is urgent, therefore, that the two levels of government reach agreement on an adequate and stable system of support for the universities. Only in this way can Canada reach its full potential.

COUNCIL OF ONTARIO UNIVERSITIES

FEDERAL-PROVINCIAL RELATIONS AND SUPPORT FOR UNIVERSITIES

INTRODUCTION: THE CORE FUNCTIONS AND FINANCING

... the university is the corporate realization of man's will to know and to understand. It is ... committed in the long term to extending and communicating man's understanding of matter, energy and materials on the cosmic scale of galaxies, on the human scale of nuclear reactors and oil refineries and on the molecular scale of chemistry, physics and biology; it is committed to extending and communicating man's understanding of the nature of life, the processes of development, disease and death in cells, in organs, in animals, plants and man, in communities, peoples and nations; of the roots and forms of political ideologies and power, of why economies flourish and flounder; of the behavior of man in families, cities, organizations; of man's sustaining imagination, as expressed in literature, drama, philosophy and religion, about the shape of society as it has been and might become.

... the university is concerned with questions at the frontier of human understanding and experience. It is committed to building a capital stock of knowledge from which industry draws in conceiving new technologies, from which nations draw in adaptive response to crises, and from which individuals draw in comprehending their place and times.

This ... view of the university is rooted in the conviction, well sustained by the historical record, that fundamental knowledge, having the dimensions cited above, has an immense range of intrinsic usefulness simply because it is fundamental. ...

The creation and transmission of knowledge and skills across a broad spectrum of disciplines and professions constitute what may be called the core undertaking of universities.

(This is taken from a discussion paper drafted for AUCC by a committee chaired by President Ham of the University of Toronto. The full text is included as Appendix 1.)

If this concept of the role of the university is to prevail in Canada, it will be necessary to achieve a new understanding among our governments and our universities. The universities are heavily dependent upon government both for their well-being and their continuity. Such a state of affairs is not undesirable. Indeed, it can be very healthy, but only if the governments have a well-developed appreciation of the nature of universities, and act to develop and maintain policies that support what is best in the universities. For their part, while remaining true to their nature as institutions of higher learning, the universities must cultivate a proper appreciation of the priorities of government and of the need to accept reasonable government requirements to show good stewardship in the use of public funds.

It is difficult enough to achieve these goals in a unitary state. In a federal state like Canada the difficulties are compounded. Today in this country it is widely recognized that there is pressing need for a reexamination of the respective roles of the provincial and federal governments in fulfilling their responsibilities towards the universities. There is also some recognition that this reexamination must involve a willingness by both levels of government to explore together common objectives, to develop policies and programmes for their attainment, and to do this in consultation with the universities. For their part, the universities

must show a continuing willingness to respect the legitimate concerns of governments as representing the public will.

The financial support of our universities taken as a group may be likened to the vascular system of a complex biological organism. One can imagine all of the financial nourishment for the universities moving through a single network--so that each university accepts responsibility for ensuring that each of its vital functions receives adequate support and that a proper balance is maintained among these many and varied functions. What actually exists, however, is an incredibly complex pattern of funding in which there are a number of sources of financial nourishment. Some of these serve the whole organism in parallel fashion; others are restricted to particular parts or functions.

This diverse pattern of financial nourishment for the system is illustrated, for Ontario universities, in Figures 1 and 2. Figure 1 shows the breakdown of Ontario university sector income by source (government, fees, and other.) Figure 2 breaks down these sources further under the headings of operating, research, ancillaries, student aid, and capital. (Appendix 2 provides background data and details on how these data have been derived. The figures are based on Table 4.) It should be noted that this presentation differs from others made by the Council of Ontario Universities in that it incorporates government support for student

assistance. As student assistance does not directly affect university revenue, it is normally omitted in statements of university revenues and expenditures. Student assistance is included here because it is an important part of overall expenditure in the post-secondary sector.

Figure 1

TOTAL REVENUE
ONTARIO UNIVERSITY SECTOR, 1979-80
(\$1460.5 million)

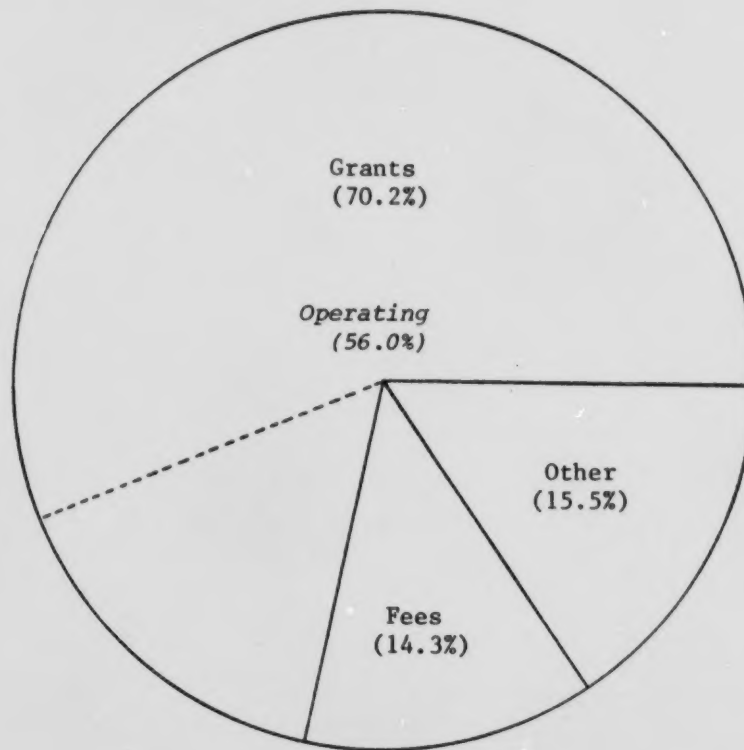
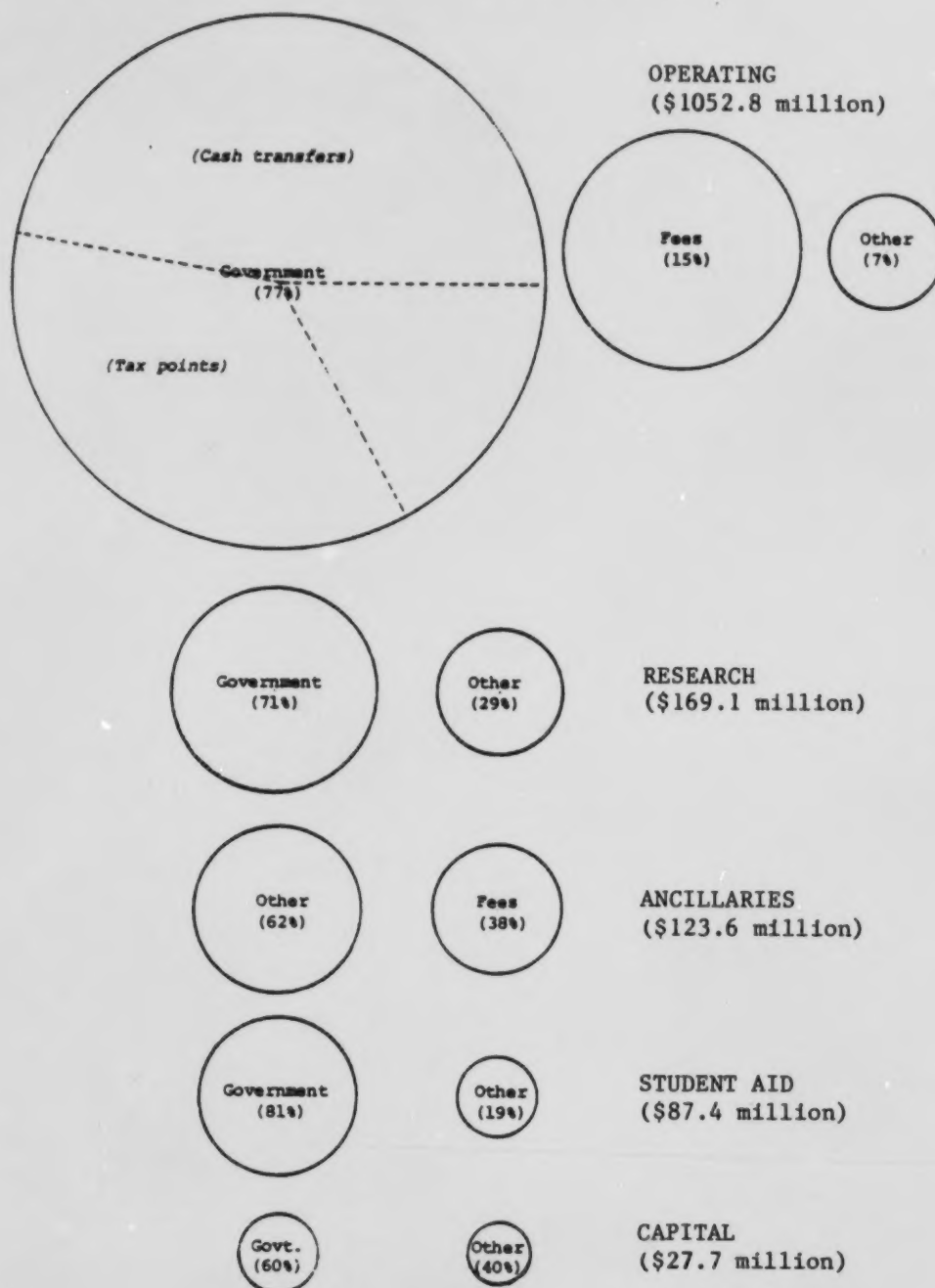


Figure 2

ONTARIO UNIVERSITY SECTOR INCOME, 1979-80



The total capital and operating expenditure for the universities of Ontario plus student assistance amounted in 1979-80 to approximately \$1.5 billion. As well, there are other major costs closely linked to university programmes for which no accurate data are available (e.g. the overhead cost of the teaching hospitals). These have not been included.

The greatest source of financial nourishment for universities is government operating grants. Ontario operating grants in 1979-80 amounted to approximately \$800 million. While the relative contribution from the federal and provincial treasuries has been the subject of much dispute, resolution of that problem is not essential for the present argument. This issue, therefore, is not entered into here. The key point is that there are two major sources for these operating funds and the flow from each source is determined separately by the two levels of government. A further point which should be emphasized is that these operating grant monies, large though they are, together constitute little more than half of the total support for the university sector (\$1.46 billion) in the year in question.

What of the other sources of support? They nourish special functions of the university or requirements of the student body which are central to higher education. The capital funds, for example,

represent the totality of expenditure for major renewal of physical plant. The sponsored research expenditures, another example, are as vital to the universities as any other academic expenditure. They are singled out only because the funds flow from distinguishable sources.

The financial responsibility of university governors and administrators is not merely to ensure that there is sufficient nourishment for the entire institution. They have a responsibility as well to ensure that there is an appropriate balance of nourishment when all the channels are taken into account. A constriction in any one channel can be damaging not just to one function but to the whole institution.

This responsibility becomes increasingly difficult to discharge as the sources of support become further and further subdivided and as the constraints upon application of funds become more severe. In the present climate the universities are deeply concerned lest those who regulate the flow of funds become increasingly preoccupied with the state of nourishment of a particular function while the whole organism hovers on the point of starvation.

This expression of concern on the part of universities is directed to both provincial and federal governments. The tendency to earmark funds

is evident everywhere. In Ontario, for example, the BILD (Board of Industrial Leadership) programme appears to offer significant benefits to universities, in return for significant contributions by the universities to BILD objectives. The provision of a fund of \$10 million for equipment in the current year is the first specific action relevant to universities taken under this programme. This measure has been warmly welcomed by the universities because it addresses a serious problem. Yet if the basic operating grant for universities continues to diminish in value each year, the effect of this limited equipment programme will have been simply to constrain the flexibility of universities in adapting to difficult circumstances.

The most vital message of this paper is simple: those who are concerned with university affairs at both the federal and provincial levels of government should be aware first and foremost of the impact of their policies on the whole university. A view of the university as an agency which responds on demand to particular societal or governmental needs is too limited and potentially destructive. The opening up of a new channel of funding directed to a specific purpose may be ill-conceived if the funds for that purpose are withdrawn from the mainstream of nourishment for the university. As a result, the university might be left in a weakened position, incapable of responding effectively to the

new challenge and equally incapable of maintaining the quality of its on-going activities. The core activities of the universities, involving teaching and basic research across a broad spectrum of disciplines, are essential to their educational mission; and every effort must be made not to jeopardize them for specific programmes however urgent.

On this brief factual and philosophical foundation we now address the specific issues which will shortly be under intensive discussion by representatives of the federal and provincial governments.

THE RENEWED FEDERAL COMMITMENT

In the budget brought down on 12 November the federal government reaffirmed its commitment to the maintenance of federal support for post-secondary education. At the same time it proposed a number of changes in the current fiscal arrangements which could have pervasive effects on the universities. More significantly, the federal government has clearly signalled its wish to devise "new federal/provincial arrangements for the financing of post-secondary education and human resources development ... in consultation with the provinces, for incorporation in new federal legislation by March 31, 1983."

It is the publicly stated position of the federal government that new federal/provincial arrangements for the joint financing of post-secondary education and human resources development are now urgently needed. Two senior members of the cabinet, the Secretary of State and the Minister of Employment and Immigration, have been assigned the task of pursuing consultations with the provinces to develop new and more effective federal-provincial arrangements in these fields. To add force to these consultations, the Minister of Finance has announced that, should no satisfactory progress be made in these consultations by 31 March 1983, the federal government might decide to freeze future EPF cash transfers for post-secondary education at the 1982-83 level. The Secretary of State has added a further point. In addition to mentioning the possibility of a freeze in future EPF cash transfers, should no satisfactory progress be made in negotiations with the provinces for new arrangements, Mr. Regan has said that the federal government could "be forced to follow other methods of providing support to post-secondary education".

In a major speech during the budget debate on 17 November, Mr. Regan outlined the current federal strategy for strengthening its support of post-secondary education. He did so under three

headings:

1. Strengthening federal policies and programmes directed at specific national objectives:
 - to provide Canadians with the knowledge and skills needed to exploit the many opportunities offered by our developing economy;
 - to strengthen support of research;
 - to strengthen programmes related to official languages; and
 - to support student accessibility, equity and mobility.
2. Maintaining a significant level of federal indirect support of the post-secondary infrastructure through the provinces, the students and the institutions as appropriate, in ways that ensure accountability to the Parliament of Canada and that the monies are used in the manner indicated.
3. Strengthening mechanisms for effective decision-making and participation.

The Secretary of State also indicated his intention to issue in the near future a revised statement of federal objectives for post-secondary education based on the June '81 speech of his predecessor and comments received on it; and he promised to consult with the provinces and with other interested groups in the universities on all related matters.

The general position of the universities on the respective roles of federal and provincial governments in the support of universities

is based on the following five points, many of which have previously been stated in the AUCC and COU briefs to the Parliamentary Task Force on Federal-Provincial Fiscal Arrangements (Breau Committee).

- a. The universities are not opposed to changes in federal/provincial fiscal arrangements or in methods of public funding for universities. They are concerned, however, that any changes which are made take adequately into account the nature of universities, their responsibilities for teaching and research, and their character as national institutions. They are also concerned that any changes be phased in so as not unduly to disturb the stability of the institutions.
- b. The universities recognize the legitimacy of a federal involvement in higher education even though according to Canada's constitution education is primarily an area within provincial jurisdiction.
- c. Both federal and provincial levels of government in Canada have a legitimate interest in establishing policies to promote accessibility, equity, and inter-provincial mobility for students in higher education; in developing an adequate pool of highly qualified manpower; in building a strong

pure and applied research base in the country; and in fostering Canadian culture. Such interests can best be fulfilled through a system of joint support to the universities.

- d. There should be adequate acknowledgement of public funds provided to the universities, whether they come from the federal or the provincial government, and proper accountability for their expenditure.
- e. The development of specific policies and programmes for funding of universities should be undertaken by the federal and provincial governments in consultation with the universities.

The First Element: Strengthening Federal Policies and Programmes
Directed at Specific National Objectives

This first element of federal strategy is entirely consistent with the basic principles endorsed by the universities. It is important, however, to make certain distinctions. One distinction is between 'national' and 'federal'. The establishment and achievement of national objectives will require the involvement of both levels of government; not all national objectives will necessarily involve a direct federal government role. A further distinction is between

'policies' and 'programmes'. It will be necessary to distinguish between those federal objectives which can only be met in a satisfactory way by the development or maintenance of specific federal programmes, and those objectives which can be fulfilled by appropriate policies alone.

Bearing in mind these distinctions, we suggest that direct federal government involvement in the funding of post-secondary education ought to be confined to the following four categories:

A. Human resources development:

Where major national constraints in human resources development are identified, the federal government should move to develop policies and strategies for their alleviation. Specific federal programme initiatives, however, ought to be modest, limited in duration, and specific; otherwise long term exacerbation of cyclical supply/demand relationships is likely, compounding the problems rather than resolving them.

B. Student assistance

Important national goals such as equal accessibility and inter-provincial mobility can only be achieved effectively

with federal government involvement in student assistance policies.

C. Research

The historic role of the federal government in the support of research remains critical to national development; however, the distribution of responsibilities between federal and provincial governments needs reexamination.

D. Other specific federal programmes supplementary to university core activities

Under this heading would come miscellaneous particular concerns of the federal government, some deriving from its constitutional responsibilities (e.g. defence, international affairs) and some related to specifically national issues such as culture and language. The historical role of the federal government in such areas provides, we believe, a fair guide to a reasonable federal government presence.

Later sections of this paper give detailed consideration to the first three of these categories: Human Resources Development, Student Assistance, and Research.

The Second Element: Maintaining Federal Indirect Support of the
Infrastructure

From the perspective of the universities this second element of the federal strategy is critical. Given the need to maintain adequate support for the core functions of the university in both teaching and research, it is crucially important that the federal government continue to provide a substantial level of indirect support for the infrastructure of post-secondary education.

We are reassured that the November 12 budget confirms federal intentions to maintain a major programme of transfers to the provinces for this purpose. It cannot be too much stressed that none of the specific federal objectives, such as those involving human resources, research, or accessibility can be achieved without a strong infrastructure to support the core activities. A significant weakness of the existing EPF arrangements is that they have permitted a weakening of this infrastructure over the past few years, through the lack of accountability and mechanisms for ongoing policy coordination. This weakness was clearly recognized by the Breau Committee, whose recommendations in this area have been embodied in the current federal strategy. The universities applaud this reassertion of federal involvement. Moreover, we strongly support

the federal position that financial support should be provided in ways that ensure appropriate accountability for the use of funds as intended by the Parliament of Canada.

The Third Element: Strengthening Mechanisms for Effective Decision-making and Participation

In the previous two rounds of federal/provincial negotiations on support for post-secondary education, five and ten years ago, the dialogue was largely confined to the finance ministers. As a result the institutions seemed to be pawns in a financial struggle, and educational policy objectives got lost in the process. The recent stated willingness of the federal government to involve others in the development of federal policies and programmes is a refreshing change welcomed by the universities. We hope that the provinces will similarly consult with their constituencies. The consultative process initiated by the Secretary of State and others in recent weeks seems well-launched. We hope that it will involve not only the requests for advice which have been issued, but also an opportunity for the universities to comment on specific policy and programme proposals while they are in the process of development. The role of the Secretary of State, along with other relevant policy ministers, in negotiations with the provinces is also a refreshing change.

New federal policies and programmes on post-secondary education could have major steering effects on the relationships between the provincial governments and the institutions. For instance, changes in the federal support of research through the granting councils could require adjustments in provincial mechanisms for university finance. It is essential, therefore, that the process of consultation be genuine and thorough. Furthermore, there is a need for continuing dialogue between the two levels of government concerning post-secondary education. For the necessary partnership to develop and be maintained, new statutory mechanisms will be required. The Breau Committee proposes that the Council of Ministers of Education serve as the forum for federal/provincial consultations. We suggest that the experience of the last four years leaves little confidence that this will be an effective approach. Also, the universities would like to see established a procedure for on-going consultation in which they will be assured of an effective role.

The pursuit of national policies for post-secondary education requires, we believe, imaginative development of new approaches which will provide for reconciliation of the legitimate interests of the federal government, the provincial governments, and the

institutions in a cooperative mode. A national forum is needed to embody a new spirit of partnership in the achievement of national goals for the university sector. Several proposals for such a continuing forum have been advanced in recent months in submissions to the Breau Committee and elsewhere, notably Professor Leslie's proposal for a Canadian Scientific and Educational Development Council, and the Social Science Federation's proposal for a Canadian Council on Universities and Research. Other proposals could be developed. Our suggestion is that the federal government and the Council of Ministers of Education should jointly create a Canadian Advisory Council for Higher Education and Research. Such a Council would be comprised of nominees from both levels of government, the university sector, and the public. Its functions would be:

- to serve as a forum for the articulation of national goals for higher education and research through a process of broad consultation and debate;
- to advise both levels of government on policies and programmes for the achievement of national goals;

- to monitor achievement of agreed goals and the general development of the higher education sector; and
- to issue public reports.

In making this suggestion, we wish to underline the major point of principle--the crying need for a new partnership. This purpose could of course be achieved by other approaches.

We also suggest that the federal government needs its own mechanisms to coordinate more effectively its interests in post-secondary education. At present these interests are distributed among various ministries and policy fields (spending envelopes) and appear poorly coordinated. Better coordination could be achieved through assigning to one minister, such as the Secretary of State, a clear integrated responsibility for the federal government's interests in post-secondary education. Alternatively, a federal government buffer agency might be contemplated with similar defined responsibilities.

An appropriate balance must be sought between the first and second elements of the federal strategy, specific objectives and infrastructure support respectively. We are concerned that removal of significant

amounts of money from the infrastructure for the institutions would be most damaging. Any new federal programmes, as new initiatives, should not draw funding away from the infrastructure. Furthermore, they should be introduced only after consultation with substantial advance notice, and possibly phased in over a period of years. Only in this way will massive undesirable dislocations be prevented.

HUMAN RESOURCES DEVELOPMENT

It has become clear in recent months that the federal government is very concerned about Canada's labour market needs in the 1980s and is determined to develop new federal manpower policies which would include greater emphasis on manpower planning and training. The possible directions of federal policy are revealed in several recent government documents and ministerial statements.

As part of the November 1981 budget, the Minister of Finance tabled a major policy document on economic development for Canada in the 1980s. This document sets out five priority areas, of which one is human resources. In the Proposals of the Government of Canada for Fiscal Arrangements in the Eighties, tabled at the same time, the Minister of Finance noted that Canada's economic development will depend increasingly on our ability to make the

most effective use of our human resources and that this will require "better coordination of higher education and related activities". He identified a need for concerted and sustained efforts to avoid unemployment of university and college graduates because of an oversupply of their particular skills, while industrial expansion is hampered by shortages of other skills. He stated that "the federal government has national responsibilities in this regard which cannot be ignored". This was the basis for his assertion that the federal government believes that new federal/provincial arrangements for "the joint financing of post-secondary education and human resources development are urgently needed".

There are further indications of federal government views in two recently issued documents which suggest that appropriate policy for human resources development is likely to be found in manpower planning. These documents are:

- Work for Tomorrow, the final (October 1981) report from the Special Parliamentary Committee on Employment Opportunities for the '80s (the Allmand Report); and
- Labour Market Development in the 1980s, a July 1981 report of a task force reporting to the Minister of Employment and Immigration (the Dodge report).

The Association of Universities and Colleges of Canada has prepared and forwarded to the Minister of Employment and Immigration a response to the Dodge report, and we draw on that response for our observations here. (The full text of that response is included as Appendix 3.) In general, the universities acknowledge the need to expand the supply of highly qualified manpower in those sectors of the Canadian economy where long-term shortages can be shown to exist, and accept that Canadian universities have an important role to play in manpower training. The emphasis in that report on the need to improve manpower forecasting and to provide better information on labour markets is welcomed by the universities.

We do not, however, share the conclusion in the Dodge report that special funding for externally identified university programmes will substantially improve the ability of the universities to train highly qualified manpower, unless there is continuing adequate support for the basic infrastructure which supports the core activities. Moreover, we reject the implied criticism that the universities have been too rigid in their academic programming and insufficiently sensitive to changing manpower needs. We also reject the suggestion that Canada needs fewer liberal arts

graduates. The assumption in the Dodge report that greater funding of institutions through student fees is likely to lead to a more rational development of highly qualified manpower should also be questioned.

The Allmand report is similar to the Dodge report in its emphasis on the need for government, post-secondary institutions, and the private sector to reallocate resources to areas identified as offering the greatest employment opportunities in the 1980s in line with the industrial and business needs of the country. But in this report as well there is a fundamental contradiction between the skepticism concerning ability to measure the degree of imbalance, present and future, in labour markets, and the unqualified policy recommendations which follow. (The following analysis of the Allmand report is taken from a paper prepared by Professor E. Saraydar, University of Western Ontario, for the AUCC. The full text is included as Appendix 4.)

With respect to the role of the universities in manpower development, it must be recognized that the long lead time (at least 3 to 7 years) characteristic of university training requires as a minimum condition that skill shortages be accurately identified and forecast if the proposed major restructuring of priorities

is to make an impact that is effective and consistent with the intent of the policy. Yet the Allmand report itself is extremely pessimistic in regard to the probability of successfully identifying the target--in particular future skill shortages--with any degree of precision.

What, then, is one to make of an accompanying set of recommendations that urge a significant reallocation of scarce educational resources--with all the major long-term adjustments that would necessarily follow--so as to alleviate perceived skill shortages which, in any event, may or may not exist a few years down the road? Of course universities should respond to market forces by providing appropriate education to enable individuals to qualify for highly skilled positions within the work force. The record shows that universities have done that with a great deal of success; they will continue to do so. Further, where existing shortages in the professions can be identified--admittedly without a great deal of precision--government in its wisdom may wish to provide supplementary funding so as to widen obvious bottlenecks, perhaps by encouraging qualified students to specialize in certain disciplines. Given the Allmand report's own view, however, that "what emerges from a review of briefs, testimony, and external material, is the apparent incompleteness and scarcity of information on opportunities for Canadian labour in the '80s, '90s, and beyond", the recommendations

that, in effect, universities should now lock themselves into a system of priorities based on apparent present and anticipated future labour market shortages seem ill-conceived.

The recommendations seem ill-conceived for another reason, related to the Task Force's view of the proper function of the university, and the relative utility of a general university education as compared to specialized training. According to the Task Force, the principal function of the university, apparently, should be to produce narrow specialists who fit neatly into well-defined vacancies in the work force, as needed. Thus:

It should be noted that a good many of those in advanced education are taking courses which are interesting and worthwhile but are not necessarily related to our economic and industrial needs or to the individual's best opportunities for employment.

Clearly, and especially in light of the report's own observations as to the uncertainty of future occupational demands, the efficiency of labour markets is enhanced by occupational movement, as labour moves over time to those occupations that offer the greatest returns. In this regard, it is important to recognize that a university education promotes certain skills that increase mobility among occupations. Contrary to the Task Force's apparent view which seems to deplore or at best tolerate the generality in post-secondary education, the skills developed by that very generality

may turn out to be the most useful, both in terms of improving the overall quality of life for the graduate, and making a positive impact on productivity for the employer. These skills have to do with such matters as developing the ability to ask the right questions; to think in a rigorous, rational manner; to apply the general as well as specific methodology of effective evaluation and decision-making. Such skills widen horizons; they have general applicability and are useful in a wide variety of occupations. Moreover, they are the very skills thoughtful employers seek and expect from university graduates of all fields and disciplines.

It would be extremely inefficient and indeed harmful in terms of the impact on capital costs, the recruitment and retention of superior faculty and staff, and an academic environment conducive to good teaching and research, for universities to gear up or wind down in response to transient shifts in demand for graduates. Sylvia Ostry (Labour Economics in Canada, pp. 128-129) has commented on the need for some stability and a long-term view:

There is the danger that the swing of the pendulum, from 'higher education is a panacea for all our ills' to 'higher education is a disaster', will lead to ill-considered actions (an excessive 'vocationalization', for example) which could seriously impair the role of the universities in 'educating'--imparting the knowledge and wisdom which is essential to a civilized society in an increasingly troubled world.

A rather different view of human resources development from that found in the Dodge and Allmand reports was expressed in a recent speech by the Secretary of State, a view which is much more harmonious with those of the universities. In this speech, Mr. Regan provided a very broad definition of human resources development as including "federal support of students and support of the colleges and universities in carrying out their central responsibility for creating and transmitting knowledge and critical capacity across a broad spectrum of disciplines as well as for their professional and more occupationally related programs". This definition goes well beyond the narrow emphasis on manpower training which characterizes the Dodge and Allmand reports.

Mr. Regan noted with approval a growing understanding that a major review is needed of the way in which colleges and universities are to maintain excellence in their core task of creating and disseminating knowledge and of the ways in which Canadians are to be provided with the requisite knowledge, skills and critical capacity for the 80s and 90s. He was critical, however, of those who are overly concerned that training and education be directed at particular trades or skills; and he asserted his own firm belief in the value of broadly based general education, for example, liberal arts education, as providing the best basis for retraining.

He also expressed the view that Canada would suffer seriously if we allowed general learning to erode.

The university community does not gainsay the appropriateness of the presence of the federal government in the field of manpower planning and development. It has an important role to play in the provision of better information on requirements for highly qualified manpower. It might also assist in providing greater opportunities for students to enjoy employment opportunities during their course of study, including support for cooperative programmes, but not limited to this.

With respect to direct support for specific academic programmes, the federal government's attention should be confined to initiatives of limited duration designed to alleviate particular bottlenecks in the supply of highly qualified manpower. While such initiatives should be modest in magnitude, nonetheless they could exert considerable leverage.

In the university sector, three possible instruments of federal policy can be identified:

1. the provision via the provinces of capital funds to ameliorate space and equipment constraints which are limiting enrolment

in particular disciplines. A format similar to that used for the health sciences in the late 1960s and early 1970s might be developed.

- ii. the provision of funding for faculty development in particular disciplines. This could take forms such as special assistance for doctoral completion as in the case of business or allowances for long-term leave for more fundamental faculty retraining.
- iii. the provision of graduate scholarships to encourage enrolment in particular disciplines where special manpower needs have been identified either in business or industry or in the universities for training researchers.

Beyond the limited areas of involvement identified here, we believe that the federal government role in human resources development through the universities should be limited to its general support of infrastructure.

STUDENT ASSISTANCE

Analysis of the issues affecting student assistance may usefully begin by reference to the report of the Federal/Provincial Task

Force on Student Assistance. Chaired jointly by representatives of the federal government and of the Council of Ministers of Education, this Task Force issued its Report in January 1981 and followed up in October 1981 by publishing an analysis of the public responses to the report.

In its Report the Task Force identified three basic objectives for a sound student assistance programme:

1. Student Well-Being: to allow all qualified financially needy students to engage in post-secondary education without undue financial hardship.
2. Equal Opportunity: to improve equal opportunity of access to post-secondary education by reducing geographic, socio-economic and other constraints on participation.
3. Participation: to encourage participation in post-secondary education of all Canadians who have the potential to benefit from such participation, regardless of financial capacity.

In the light of these objectives, it identified five principles that should be embodied in a sound student assistance programme:

- a) The Shared Responsibility Principle: Student assistance programs should be designed and administered in a way that places a fair distribution of costs, benefits and responsibilities on students, on society as a whole as represented by governments and on other sources of funding. Student assistance programs should supplement, not replace, the resources that students receive from their own earnings and from other sources, including a financial contribution from parents or spouses in cases where there are ties of financial support between students and their parents or spouses.

- b) The Fairness, Responsiveness and Privacy Principle: Student assistance programs should be equitably and openly administered and information about the programs should be widely available. These programs should be administered in a way that minimizes the paperwork imposed on recipients and other non-governmental participants in the program, that allows easy access to the administrative process, and that protects the privacy and confidentiality of recipients and other participants.
- c) The Management Principle: Student assistance programs should be administered efficiently and effectively and must recognize the fiscal and financial realities of the day. They should be administered in such a way as to foster accountability and prevent abuse and mismanagement by governments, students and other parties concerned.
- d) The Adaptability and Compatibility Principle: While the objectives and principles of student aid programs in all provinces must be essentially the same and allow for the mobility of students to study in other provinces, the programs should nevertheless be sufficiently adaptable to allow for special requirements that may exist in different regions and types of post-secondary education.
- e) The Consistency with Other Policies Principle: Student assistance programs should, where possible and where consistent with their own objectives and within budgetary allocations, be compatible with other social, economic and educational policies, including those directed to developing a highly qualified population, to reducing regional disparities, to encouraging scholastic performance, and to promoting general social well-being and equity.

On this basis, the Task Force proposed for consideration five alternative national student assistance plans, each of which was judged to meet all of the objectives and principles. The responses to the report show general agreement with the objectives

and principles developed by the Task Force, but no consensus with respect to any of the alternative proposals. There is agreement, however, that a new joint federal/provincial programme of student assistance with more liberal eligibility criteria and a larger grant component is desirable.

Against this background and in the light of apparent current federal interest in assuming more direct responsibility for funding programmes of student assistance, two practical issues arise:

1. Should the federal government be encouraged to assume greater or full financial responsibility for a national student assistance programme? If so, might it appropriately reduce to some extent its core funding of universities as an offset against the added costs? If so, by how much and over what time period?
2. Assuming a larger federal direct financial commitment to student assistance, what additional assistance, if any, should be provided by the provincial governments?

It has long been recognized that there are very great difficulties in developing a national student assistance programme that meets

the accessibility and equity objectives without incurring very large costs. There are sharp differences of opinion about whether a plan including both grant and loan portions should have the grant portion or the loan portion first. Moreover, a number of the provinces may be unprepared to provide the same level of direct financial support for student assistance as does Ontario, which provides the largest per capita funding for this purpose.

Nevertheless, given the clear federal interest in providing direct financial assistance to students, in part because this would give the federal government visibility, the universities are now proposing that the federal government assume responsibility for an expanded national student assistance plan. This could be effected in several ways, such as:

- a) by having a national (Canada-wide) student assistance programme in which the federal and respective provincial governments are jointly involved. With prior agreement on eligibility criteria, grants/loans mix and levels of allowance, the federal government would undertake to meet the 'social' costs incurred by the student, by providing living/maintenance allowances and travel grants; and the provincial governments would undertake to meet the direct educational costs, those

related to tuition and other fees, books, etc. (Such a scheme would provide a means for dealing with tuition and other fee differentials from province to province.);

- b) by having a student assistance programme supported by the federal government involving both grants and loans, with the respective provincial governments free to add to the allowances additional amounts in relation to provincial tuition and other fee levels, variations in provincial/regional living costs and special regional priorities; or
- c) by having the federal government provide the provinces with funds for this specific purpose, allowing the provinces to design the details by reference to guidelines upon which there is mutual agreement.

Whatever the plan, the universities would want to be assured that an expanded national student aid programme would not have an adverse effect on federal support for the university infrastructure. If a plan is envisaged which is considerably more costly than the aggregate of provincial plans, secure funding for the new scheme should be assured prior to its adoption. While student assistance understandably ranks high among government priorities,

it would be regrettable if a new student assistance plan proved to be such a drain on federal financial resources that transfer payments to the universities could not be maintained at the required level. The issue here is improved accessibility. But the question must be raised: Accessibility to what? Expanded accessibility must not be at the price of weakening further the services the universities can provide to students.

There are other considerations affecting support for graduate students, which are separate from a general plan for student assistance. These will be dealt with in the following section on Research.

RESEARCH

The basic purpose of university research is the extension of knowledge and understanding of the natural world and of man's history and culture. This is fundamental to the nature of the university; research forms a part of the university's core undertaking. 'Core research' is here defined as the sum of the research activity of all faculty members except for that part of the activity for which specific goals are determined by external sponsors. Core research funding is the total financial support required to maintain

active research programmes for all faculty members who are found to be competent in the judgment of their peers.

University research may have short-term practical consequences, of value to society as a whole and/or to particular client groups. Such practical research may be done in universities as a part of the core undertaking, when faculty members freely elect to pursue such goals. On the other hand, it may be supplementary to the core activity and may involve facilities and staff provided through special sponsorship by an external agency.

Each full-time faculty member of a university has the right and the responsibility to engage in research. The faculty member also has the right and responsibility to choose the nature of that research, subject to very broad constraints defined by academic tradition and university policy. Each faculty member who is qualified to do so also has a responsibility to contribute to the education of graduate students who will themselves be the next generation of research workers. In universities which have graduate programmes, therefore, research and graduate studies are inseparably connected.

Universities have the responsibility for providing appropriate working conditions for faculty members so that they have the

free time and the basic resources which are essential for research. Faculty members have the right and responsibility to seek external support for the additional costs of research which are not borne by the university.

The major elements of financial support for research may be classified as follows:

1. capital costs of physical plant
2. capital costs of major equipment
3. faculty salaries and benefits
4. other direct operating costs
 - personnel salaries and benefits
 - consumable supplies
 - minor equipment purchase
 - services such as computing, animal care, technical shops and equipment maintenance
5. indirect operating costs
 - plant operations and maintenance
 - administrative support
 - library.
- 6) support for graduate students

It is essential for the health of university research that a balance be maintained among the six elements of financial support set out above. Any serious imbalance will lead to inefficiency

and curtailment of productivity.

While our constitution assigns responsibility for education primarily to the provinces, historically this constraint has not been deemed to apply to research conducted in the universities. There has been a strong and consistent federal presence in university research for over forty years. There has, however, been no consistent division of responsibility for the elements of research financing between the federal and provincial government.

Available data on sources of funding for research (see Table 4, Appendix 2) include only direct subventions from various sources. In 1979-80, the Ontario universities received \$169 million in grants and contracts for sponsored research, some 12% of their total revenue. The total cost of research, including indirect costs and direct costs not covered through subventions, would be much greater. Of the direct subventions for sponsored research, the federal government provides 54%, the provincial government 17%, and other sources (principally contracts and grants from corporations, foundations, and other non-governmental sources, together with endowment income) 29%.

The current federal and provincial roles in financial support for research are as follows:

1. Capital costs of physical plant

The provinces have carried most of the responsibility for provision of research laboratories and offices. Some of the major exceptions are the health science facilities constructed during the 1960s and '70s under federal/provincial cost sharing programmes.

2. Capital cost of major equipment

In many cases the provinces have provided major equipment as part of capital costs of new buildings. In other circumstances both federal and provincial agencies have provided major equipment.

3. Faculty salaries and benefits

Faculty salary and benefit costs are normally funded by general operating revenue provided through direct provincial grants. These provincial costs are shared by the federal government through transfer payments.

4. Other direct operating costs

Grants from the major federal agencies (the Natural Sciences

and Engineering Research Council, the Medical Research Council and the Social Sciences and Humanities Research Council) are intended to underwrite these costs. In practice, particularly for NSERC, operating grants do not cover all of the direct costs of projects. Thus, some direct costs of many research projects must be funded from university operating budgets. This is particularly true for research services such as computing, animal care and technical shops. Research grants also come from a variety of other sources, such as provincial agencies or charitable foundations. Some of these grants cover the full direct costs of the projects they support; others do not.

5. Indirect operating costs

For almost all research grants held in Canadian universities, indirect costs are not funded by the granting agency. Indirect costs have been estimated by the Canadian Council on the Funding of University Research to be approximately 50% of the corresponding direct costs. This cost burden normally falls on the university operating budget and is supported through the operating grants coming from the provincial governments, with the federal government contributions coming through the transfer payments.

For research conducted on a contractual basis, commonly an overhead charge is levied in recognition of the related indirect costs. Often, however, these charges are not computed at a realistic full-cost level. For instance, in most analyses of indirect costs no reckoning is made of imputed capital costs. The calculation of indirect costs is, of course, a function of what is included in direct costs.

6. Support for graduate students

It is reasonable to include support for graduate students as part of the direct operating cost of research, since these students, as research trainees, make a very important contribution to the conduct of research. In many fields, were there no graduate students, even higher costs would be incurred for additional technical staff. The costs of stipends for these students are shared among the federal granting agencies, the provincial governments, university operating budgets, and a variety of other agencies.

While we have at the present time a very complex pattern of research support in Canadian universities, it is possible to identify

some long-standing principles which if properly applied would both simplify the existing situation and recognize the legitimate interests of both levels of government. Application of these principles requires, however, that the distinction between 'core research activity' and 'supplementary research' as set out above be recognized.

The most reasonable basis for apportioning core research costs between provincial and federal governments would be to have provincial governments take full responsibility for the capital costs of the physical plant, for faculty salaries and for all of the indirect costs as defined above.

The federal government would take responsibility for all of the direct costs of core research projects, including major equipment and support for trainees. In addition, the federal government would underwrite fully the indirect costs to the provinces through transfer payments, recognizing that by these means it will be providing a portion of the costs of faculty salaries as well as supporting general university operations. These transfer payments would be earmarked for universities but flow through the provincial granting mechanisms. (While direct costs, equipment and trainee support are proposed as areas of primary federal involvement, it is not intended that provinces should be excluded

from these areas. Provinces may at any time introduce their own programmes supplementary to those of the federal government.)

Equipment funding deserves particular mention here. One of the chronic problems in recent years has been that no agency has made provision for the replacement of equipment acquired as part of the capital cost of a building. This problem may not arise again in such an acute form because the rate of building which prevailed in the 1960s and 70s is unlikely to be repeated in the foreseeable future. It would seem desirable, however, that the federal granting agencies be funded at a level sufficient to enable them to provide the basic equipment for core research, including that required by new buildings. The councils would also retain responsibility for the replacement of equipment in due course.

While the pattern of funding proposed here conforms to the established convention of research funding in Canada, recent practice has departed from it strikingly. This has come about mainly due to the pressures of inadequate funding. For example, the universities have had to continue to fund many of the direct costs of research projects simply because the grants from the federal agencies were unrealistically low. Conversely, the federal agencies have established programmes for direct funding of salaries of faculty members because university budgets were not able to keep open

career development opportunities for young scientists. At a time when transfer agreements are being re-negotiated, it should be possible to unravel these complications and to re-establish research funding on a basis which is clearly understood by all parties.

The Canadian Committee on the Financing of University Research might provide a useful vehicle for developing an integrated approach, one based on a clear division of responsibility, and one that is administratively simple.

A major alternative to the conventional view set out above is that federal granting agencies should provide overhead payments directly to universities in fixed proportion to the value of grants. Such a scheme is not desirable for core research activity, because over the long-term it is likely to create instability in the infrastructure support for basic research. A much better way to finance indirect costs is to fix on a level which corresponds approximately to the ongoing capacity for research, to adjust this level frequently as capacity or inflation changes the costs, but to ignore the relatively minor perturbations related to particular projects and annual fluctuations of activity. Mechanisms for allocating general operating revenue within the provinces and within institutions should ensure that funds adequate to cover

indirect costs find their way to the appropriate cost centres.

For many years several federal agencies in the United States have followed the practice of attaching indirect costs to their project support for universities. This has tended to make universities excessively dependent on individual holders of large grants and to create difficulties when such individuals relocate. As well, it makes the institutions subject to a very complex and burdensome set of bureaucratic controls.

In addition to core research activity, universities can be expected to continue to take on supplementary research dedicated to particular goals identified by the sponsor. It is not always possible to draw a clean line between core research and supplementary research. In general, however, supplementary research is likely to be funded by contract. The sponsors of such research will be found among the departments of government other than granting agencies and among private corporations. It is reasonable to assume that the sponsor should pay for all the direct and indirect costs of such research. These latter costs would include, for example, a 'user charge' for major equipment. It is not unreasonable that charges for such supplementary research should also include the imputed capital cost for the building housing the laboratory concerned. Funds for imputed capital costs might be held in

trust by institutions and applied as needed to contribute to major maintenance, alteration or replacement of buildings.

It might be assumed that some small fraction of the university plant is dedicated to supplementary research. This component of the plant might well be expanded by agreement between the university and an agency of government or a private corporation. The basic operating costs of such facilities should be sustained by the sponsor and not become part of the operating budget of the university. These principles would apply to research parks as well as to special ancillary institutions within the university.

CONCLUSION

Canada is one of a handful of wealthy, developed, high technology countries. Her universities have played a major role in achieving this progress. They have an equally important role to play in the future of the country. In an increasingly competitive world, Canada will be able to realize its full potential as a strong and independent country only if it employs its intellectual resources to the fullest. To do this Canada needs strong universities dedicated to the highest excellence in research and development, and transmitting the best of our traditions and culture.

Compared with those in many other countries Canada's universities are very young, and our university system is still in the early stages of evolution. Though a number of our universities have achieved international standing and the system as a whole is highly regarded, it is not yet mature and stable. It would be devastating for these young institutions, already weakened by the funding trends of recent years, if general financial support for their core activities in instruction and research were to be further reduced. It would also be devastating for Canada.

There is abundant evidence that the current climate of uncertainty is inhibiting the universities in the realization of their true potential. It is imperative that this uncertainty be ended by firm commitments on the part of both federal and provincial governments to ensure the health of the country's universities. Clear directions and effective policies on the issues raised in this report are urgently required.

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WHERE DO CANADIAN UNIVERSITIES STAND IN PUBLIC PRIORITIES?

The following text was prepared as a discussion paper by an ad hoc committee of the Board of Directors of the Association of Universities and Colleges of Canada. The committee was composed of:

James Ham, President, University of Toronto (Chairman)
George Connell, President, The University of Western Ontario and
Chairman, Council of Ontario Universities
David Johnston, Principal, McGill University
Andrew MacKay, President, Dalhousie University and Chairman,
Association of Atlantic Universities
Norman Wagner, President, University of Calgary and Chairman,
Council of Western Canadian University Presidents
Gilles Boulet, Président, Université du Québec and Chairman,
Conference of Rectors and Principals of Quebec Universities
Allan Gillmore, Executive Director, Association of Universities
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Summary

There are increasing discrepancies between public expectations of Canadian universities and the policies and means for their support. While funding is a crucial issue, there are basic unanswered questions about the role of our universities and the distribution of responsibility for sustaining them as vital institutions for the development of Canada and its people. The intent of these notes is to stimulate dialogue about these questions among governments, business, alumni, the public and the universities.

Three simple questions underlie this problem:

- i) what is the proper role of Canadian universities?
- ii) what are the basic features of their life and work that determine the costs of sustaining them?
- iii) who should pay these costs?

There are two delimiting views of the university and a study of these can help us to explore the confusion of expectations that has emerged in recent years. At one extreme there is the view of the traditional academy which is rooted in the seven hundred year history of universities in the Western World. This view is epitomized in Karl Jasper's statement that the university is the corporate realization of man's will to know and to understand. It is a view that sees the university committed in the long term to extending and communicating man's understanding of matter, energy and materials on the cosmic scale of galaxies, on the human scale of nuclear reactors and oil refineries and on the molecular scale of chemistry, physics and biology; of the nature of life, the processes of development, disease and death in cells, in organs, in animals, plants and man, in communities, peoples and nations; of the roots and forms of political ideologies and power, of why economies flourish and flounder; of the behaviour of man in families, cities, organizations; of man's sustaining imagination, as expressed in literature, drama, philosophy and religion, about the shape of society as it has been and might become.

In this view the university is concerned with questions at the frontier of human understanding and experience. It is committed to building a capital stock of knowledge from which industry draws in conceiving new technologies, from which nations draw in adaptive response to crises, and from which individuals draw in comprehending their place and times.

This traditional view of the university is rooted in the conviction, well sustained by the historical record, that fundamental knowledge, having the dimensions cited above, has an immense range of intrinsic usefulness simply because it is fundamental. For example; the modern microelectronic world of computers and telecommunications is founded on the fundamental understanding of electromagnetic waves, the physics and metallurgy of solid materials called semiconductors, the mathematical conception of computers which make reference to programs of instruction stored within themselves, and incredibly pure materials. This fundamental stock of knowledge has developed over the last century under the stimulus of the basic research and teaching of universities and of research laboratories led by graduates of universities.

The creation and transmission of knowledge and skills across a broad spectrum of disciplines and professions constitute what may be called the core undertaking of universities. The core undertaking is, by its nature, associated with a measure of critical detachment from the immediate context of their work. In their long history, however, universities have often been isolated, at times unreasonably so, from the social contexts in which they have existed.

Yet the nature of the modern world is such that no university of high quality can sustain its vitality and resources in isolation from its local, regional, national or international milieu. The dramatic consequences of the achievements of universities, the high cost of sustaining these institutions and their increasing willingness to become engaged in practical enterprises have led to rising expectations that they should focus their attention on the short-term needs of the societies that sustain them.

One can envision a type of institution that would give expression in an extreme form to these expectations of the university. While no such institution now exists in Canada under the name of university, the forces which may give birth to it are great and growing in strength. This utilitarian enterprise would thrive only by responding to the immediate interests of clients, through the provision of manpower equipped with precise qualifications, through programs tailored to the client's specifications, through research and service performed on a contractual basis. The total work of the institution would be, then, a mosaic of undertakings, many of them short-term, to be evaluated only on the basis of their "marketability" to governments, corporations and private citizens. No enduring, unifying principles or commitments would remain. Whether any of the sustaining values and motivations of the traditional academy could survive is uncertain. It is possible that, from the mosaic, dedicated scholars could assemble patterns which would support their intellectual vitality and integrity. What is more doubtful, however, is whether such an enterprise as a whole could generate or even retain sufficient intellectual capital to ensure its adaptability and survival in the long term. Sterilization of the creative process would end the useful life of any university.

While this version of the university may be a gross distortion, expectations which seem to support the caricature are prevalent. These expectations are, perhaps, most readily perceived in attitudes in some quarters to questions of manpower supply and planning. For some, the role of the university is that of the agency which produces individuals in appropriate numbers to fit slots in current labour markets. Certain universities are engaged in preparing students for particular kinds of careers. The best of our universities, however, (and the best of our students) always have been committed not only to training in special skills, but also to the development of full intellectual potential, the acquisition of fundamental understanding and the nurturing of a capability for adapting to new roles and circumstances. These qualities may not be the ones most immediately sought among new graduates by particular employers. They are, however, the qualities which serve the individual through a lifetime of work and experience and the qualities which serve, in the long run, our national interest.

Nevertheless, it is a responsibility of universities to respond to certain needs of governments, business and industry through the execution of projects for which the motivating objective is the short-term needs of the sponsors. In the country as a whole, there is a welcome diversity in the character of our universities nationally and regionally and the balance of the contribution of each to the many aspects of the life of our society can be appropriately different. Therefore, some universities are more active than others in embracing such projects.

Industrial and governmental contracts are characteristic means for implementing short-term project objectives.

How much of this work is appropriate to a given university, to our universities collectively?

What means ought to be provided for distinguishing this project work from the core undertaking of the university and for sustaining an appreciation of the steering effect that these projects have on the core undertaking?

Some of the present confusion concerning public expectations of universities may be traced to inadequate attention to the terms upon which universities can and should take on short-term projects. It must be understood that the capacity of universities to undertake short-term projects arises

from the infrastructure of facilities and talents that is inherent to their core undertaking. As institutions, universities are not designed to be primarily performers of short-term projects. It is natural, therefore, that when they perform such project work they do so with the perspective and style peculiar to their main objective. It is important to acknowledge, however, that, in return, practical projects may stimulate insight into very basic questions of understanding that are at the centre of a university's concerns.

In the light of a clearer definition of the core mission of the university certain principles relative to short-term projects are self-evident.

- a) The short-term commitments should be of such a nature that they neither damage nor displace the core activities of the university.
- b) The total effort committed to project work should be maintained at a level which does not overbalance the core activities.
- c) Traditional academic freedom and the right to publication should not be restrained unduly by conditions attached to the project.

Given widespread understanding and acceptance of these principles, Canadian universities should be able to embrace a wider range of short-term projects than they have in the past and in so doing establish a better reconciliation of institutional with external expectations than now exists.

Having distinguished the long-term core undertakings of a university from complementary short-term project work, the question of who should pay how much to sustain these endeavours can be considered.

What are the features of a university that determine the costs of its core undertaking?

There are two basic components:

- a) the range and diversity of the core undertaking;
- b) the number of persons to whom university education is made available.

With respect to the range and diversity of the core undertaking, several questions can be posed.

- a) What measure of intimate engagement with the world's store of knowledge ought we to have in our society?
- b) Are we to be a knowledge-based nation, living by our intellect as well as by our resources or are we to be consumers of the earth's resources, preoccupied with the needs of the current labour market?
- c) In an increasingly interdependent and knowledge-based world, is it not important that Canada develop and sustain an understanding of the cultures, economies and peoples with whom it trades?
- d) In order to share in the world's stock of knowledge, is it not a national priority for Canada to contribute to that reservoir?
- e) In a rapidly changing world, what institutions must have the responsibility constantly to re-examine and to extend the basis of our understanding upon which we act as citizens, businessmen, legislators?

These are important questions not only for individual universities but also for the country as a whole.

Responsibility for the preservation and development of human knowledge is an endeavour that demands sustained and painstaking concern for continuity, coherence, consistency and critical review. It requires a strong and stable framework of staff, libraries, laboratories and buildings that represent the long-term commitments of a university. This task, by its nature, is one that cannot be turned on and off. It is an historical responsibility. The costs of the core undertaking of the university, therefore, are committed on a long-term basis and their scale is determined by the range and diversity of the commitment. Canadian universities differ widely in this matter, as indeed they ought. Some are strongly research based, others concentrate on teaching which itself is vivified by the fundamental work of reflective scholarship.

The second basic determinant of the cost of sustaining Canadian universities is the number of persons to whom university education is accessible and the quality and duration of the programs of study.

Why do we have higher education?

There are three major reasons:

- a) to provide opportunity for the development of individual talent;
- b) to derive the social benefits of a better educated people;
- c) to provide the highly educated and trained manpower needed for economic development.

What are current provincial policies concerning accessibility? Who decides who will have access to which programs? What are the effects of unrestricted access upon quality? Are there too many or too few persons studying in Canadian universities?

In general, governments are loath to limit access to university education, yet government spokesmen frequently are critical of enrolment levels in programs that they perceive to be unrelated to the stated needs of the labour market.

In Canada, approximately fifteen percent of persons in the age group 18-24 follow a university program. Eighty-five percent of this age group do not attend university but acquire skills in some other manner. Of those who complete a university program, at least half graduate in studies that are directly or strongly related to currently identifiable professional careers. Thus, only about seven percent devote their initial studies to the liberal arts and sciences.

Can it be said, therefore, that too many of our young people devote themselves to studies that may appear to some to be unrelated to current labour market needs? Is it reasonable to think of every graduate in terms of the capacity to fill existing jobs?

An answer to these questions may be found in two others.

Whom do we expect to have the perspective to understand how our society is changing and how such change may alter the structure of human tasks?

How do we expect some of our number to acquire this perspective and indeed the imagination with which it must be coupled?

One of the sad features of manpower and "fill-the slot" views of human beings is the lack of faith in the adaptability of talented persons. In World War II the high technology of radar was managed by physicists turned engineers. One of the functions of a university is to educate persons who are capable of adapting their talents to new circumstances. Universities in their core undertaking contribute to a reservoir of talent that can be mobilized to meet uncertain futures.

There are, then, basic questions on which there is not agreement relative to how many persons should be educated in universities and for what ends. The numbers determine a major dimension of the costs.

Who should pay for the infrastructure of the core undertaking of universities and for the costs of an established level of accessibility?

All sectors of society are beneficiaries of the work of universities and should share in meeting the costs of sustaining our institutions. The infrastructure of academic and support staff, libraries, laboratories and buildings on which the core undertaking is founded should be supported jointly by the provincial and federal governments with stable, long-term core funding.

Why is this a proper responsibility of both levels of government?

Because the core undertakings of our universities are of local, provincial, regional, and national benefit and because these governments have taken upon themselves responsibility for policy decisions relative to universities.

The current debate about the appropriate roles of the federal and provincial governments relative to universities is well known. That debate underscores the need for the coordinated provision of stable core funding according to publicly and, therefore, politically understood principles which enable an open accounting for the contribution of each government. If agreement on a national energy policy is essential to the welfare of our country, the need for

national consensus on how the core undertaking of universities is to be sustained for the public good is that much more important. This challenge calls for the efforts of a strong and respected tripartite permanent commission representing the two levels of government and the universities.

Earlier in this document, the long-term core undertaking of universities was associated with the image of a collegial academy and the short-term project undertakings with the image of a utilitarian enterprise. The costs, direct and indirect, of carrying out short-term projects in response to the concrete objectives of sponsors should be clearly distinguished from those of the core activities and should be wholly funded by those sponsors. In addition, it must be remembered that these projects have the potential to distract the attention of universities away from their primary concerns, steering them in the direction of the ad hoc interests of governments, business and industry. The capacity of universities to respond positively to such external initiatives is rooted directly in the strength and diversity of their core undertaking and that, in turn, must not be undermined by the performance of short-term projects.

The foregoing distinction between traditional academy and utilitarian enterprise should provide a basis for dealing with the reasonable expectations of governments, business and industry. Universities must be expected to refresh their own perspective of their core undertaking in the light of experience gained from short-term projects.

By what means of consultation and liaison can universities, government, business and industry establish among themselves a clearer appreciation of the complementarity of benefits of these two classes of undertaking?

There should be careful attention to this issue by all concerned both locally and nationally.

If a mutual understanding of the intimate relationship between the core undertaking of universities and utilitarian enterprises can be achieved, the private sector might be prepared to strengthen its support of Canadian universities. Private support also could be strengthened if governments would match private support dollar for dollar, on the understanding that the funds would be used to explore opportunities to adapt core undertakings to national and regional needs.

What contribution to the costs of universities should be made by the direct beneficiaries of university education, namely students through tuition fees?

Tuition fees currently account for an average of 10-15 percent of the total operating costs of Canadian universities. Significantly higher tuition fees coupled with appropriate provision for student assistance could reduce the dominance of governments in the funding of our universities.

At what level should fees be set?

The answer will be different for different regions of Canada. Perhaps the time has come, however, to transfer to the users the responsibility for a greater share of the costs of their education. There is evidence of a widespread public commitment to higher education. In all likelihood this commitment would find expression in a willingness to pay higher tuition fees.

One consequence, however, of higher fees would be a greater institutional dependence on enrolment for income. While core undertakings of universities in their teaching function serve the students, such undertakings are not predicated on enrolment alone. There is a basic cost to a university that derives from the range and diversity of its core undertaking which are characteristic of its historical developments. Buffering the universities against the effects of fluctuations in enrolments will be a continuing government responsibility.

The scale of public investment in higher education is now so large that there is a legitimate public concern to have adequate accounting for the use of this investment. Investment in universities is investment in people and in the long-term capacity of the provinces and the country to appropriate and use the national and world stock of basic knowledge to meet and adapt to the future. The primary means for doing so is through the careers of those who study and those who work in our universities. The abilities of Canadian university graduates, as judged by their employers in Canada and abroad and as evidenced by their quality of leadership in all walks of life, provide the primary affirmation of the worth of the public investment in our universities.

But there are several other means whereby university accountability may be tested. Every university has the equivalent of a Board of Trustees on which sit significant numbers of lay persons charged with overseeing the affairs of their institution. Every university is required to publish full, annual financial statements. Students are free to apply to the institution of their choice and to leave it if dissatisfied with the experience it offers. Tenured academic staff are selected by rigorous peer review. The publications of academic staff are in the public domain and subject to criticism by a world-wide peer community. Professional programs are subjected regularly to accreditation reviews by national or international bodies. In short, there are few, if any, publicly funded institutions in which the collective means for accounting for the use of funds and for the quality of what is achieved with those funds are so varied and so strict.

The long-term social health and vitality of Canada depends on strong universities. In the face of concern about total costs and of unclear expectations of what universities are intended to do in and for our society, it is essential that the questions posed in this document be confronted and explored by the universities with governments, business, industry and citizens.

The universities believe that the public investment in them is well founded and essential to the long term health of the provinces and of Canada. There is an urgent need to strengthen the basis for a shared conviction that such is indeed the case and to clarify the basis upon which public decisions concerning universities are made.

SOURCES OF REVENUE
ONTARIO UNIVERSITY SECTOR, 1979-80

The attached table 1 displays the total income of Ontario universities for 1979-80 as reported in the annual COFO-UO report of revenue and expenditure. The table distributes total income by source and type of funds.

COFO-UO reporting assumes that operating grants to Ontario universities are derived solely from provincial sources, i.e. no recognition is afforded to the federal rôle in financing universities implicit in established programmes financing. Table 1 is recast in a series of table 2s to reflect the federal contribution to financing the Ontario university infrastructure.

Table 2a includes all EPF transfers attributable to universities (assuming 32.1% of total transfers being attributable to the post-secondary sector and 72.3% of this sector being attributable to the universities); both cash and tax transfers are included. Table 2b reflects the recent federal budget and excludes the revenue guarantee portion of EPF from these calculations. Table 2c concedes that the tax points transferred to the provinces bear no relationship to designated programmes, the revenue being derived therefrom being therefore unattributable to the post-secondary sector. In the development of the succeeding tables 3 and 4, table 2b is assumed to more correctly reflect actual federal-provincial sharing of university costs.

COFO-UO revenue reporting procedure specifically precludes inclusion of funds received from the Ontario Ministry of Health to support clinical education in medicine. In 1979-80, the total MOH clinical education budget was \$70,044,025. Salaries of residents and internes accounted for 75% of this total and it is debatable whether these salary funds can be charac-

terized as legitimate educational costs or whether they are merely payment for services rendered. A further 22%, however, of the clinical education budget constitutes what is known as "T & R" funding. "Treatment and Rehabilitation" funding is used by faculties of medicine to cover a portion of the salaries of clinical instructors. Table 3 includes "T & R" funds, attributed entirely to the Ontario government. The federal government, through EPF as it applies to the health sector, contributes some portion (approximately half ?) of these "T & R" funds. We have not attempted here to calculate the federal portion.

In addition to supporting the direct costs of university teaching and research, the federal and provincial governments make additional significant expenditures related to university education. These expenditures can generally be characterized as student support. Ontario, through the Ontario Student Assistance Program and the Ontario Graduate Scholarships Program spent some \$46.9 million in 1979-80 on student support. For its part, the federal government spent \$14.7 million on Ontario residents arising out of the Canada Student Loan Plan and \$9.0 million by way of fellowships to support graduate students at Ontario universities. (The latter figure is derived from "Graduate Student Incomes in Ontario, 1979-80" published by the Council of Ontario Universities). To complete the picture, we include university contributions to student assistance under the funding source "Other". Because funds for student assistance are not separately identified as a source of revenue by universities, we have used expenditure as a proxy for revenue. Expenditures on student support are added to previous figures in a separate column on Table 4. The table format is retitled "Sources of Revenue, Ontario University Sector", since student support does not represent direct revenue to universities.

Table 1
Sources of Revenue
Ontario Universities, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Total</u>
Ontario	799610	28617	70	16497	844794
%	75.8	16.9	0.1	59.5	61.4
Federal	3169	91481	6	4	94660
%	0.3	54.1	0.0	0.0	6.9
Municipal	251	388	-	-	639
%	0.0	0.2	-	-	0.0
Total Govern.	803030	120486	76	16501	940093
%	76.2	71.3	0.1	59.5	68.4
Fees	160717	-	47389	39	208145
%	15.2	-	38.3	0.1	15.1
Other	90664	48584	76114	11192	226554
%	8.6	28.7	61.6	40.4	16.5
Total	1054411	169070	123579	27732	1374792
%	100.0	100.0	100.0	100.0	100.0

Table 2a
Sources of Revenue
Ontario Universities, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Total</u>
Ontario	79610	28617	70	16497	124794
%	7.6	16.9	0.1	59.5	9.1
Federal	723169	91481	6	4	814660
%	68.6	54.1	0.0	0.0	59.3
Municipal	251	388	-	-	639
%	0.0	0.2	-	-	0.0
Total Govern.	803030	120486	76	16501	940093
%	76.2	71.3	0.1	59.5	68.4
Fees	160717	-	47389	39	208145
%	15.2	-	38.3	0.1	15.1
Other	90664	48584	76114	11192	226554
%	8.6	28.7	61.6	40.4	16.5
Total	1054411	169070	123579	27732	1374792
%	100.0	100.0	100.0	100.0	100.0

Table 2b
Sources of Revenue
Ontario Universities, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Total</u>
Ontario	127610	28617	70	16497	172794
%	12.1	16.9	0.1	59.5	12.6
Federal	675169	91481	6	4	766660
%	64.0	54.1	0.0	0.0	55.8
Municipal	251	388	-	-	639
%	0.0	0.2	-	-	0.0
Total Govern.	803030	120486	76	16501	940093
%	76.2	71.3	0.1	59.5	68.4
Fees	160717	-	47389	39	208145
%	15.2	-	38.3	0.1	15.1
Other	90664	48584	76114	11192	226554
%	8.6	28.7	61.6	40.4	16.5
Total	1054411	169070	123579	27732	1374792
%	100.0	100.0	100.0	100.0	100.0

Table 2c
Sources of Revenue
Ontario Universities, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Total</u>
Ontario	420610	28617	70	16497	465794
%	39.9	16.9	0.1	59.5	33.9
Federal	382169	91481	6	4	473660
%	36.2	54.1	0.0	0.0	34.5
Municipal	251	388	-	-	639
%	0.0	0.2	-	-	0.0
Total Govern.	803030	120486	76	16501	940093
%	76.2	71.3	0.1	59.5	68.4
Fees	160717	-	47389	39	208145
%	15.2	-	38.3	0.1	15.1
Other	90664	48584	76114	11192	226554
%	8.6	28.7	61.6	40.4	16.5
Total	1054411	169070	123579	27732	1374792
%	100.0	100.0	100.0	100.0	100.0

Table 3
Sources of Revenue
Ontario Universities, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Total</u>
Ontario	142762	28617	70	16497	187946
%	13.3	16.9	0.1	59.5	13.5
Federal	675169	91481	6	4	766660
%	63.1	54.1	0.0	0.0	55.2
Municipal	251	388	-	-	639
%	0.0	0.2	-	-	0.0
Total Govern.	818182	120486	76	16501	955245
%	76.5	71.3	0.1	59.5	68.7
Fees	160717	-	47389	39	208145
%	15.0	-	38.3	0.1	15.0
Other	90664	48584	76114	11192	226554
%	8.5	28.7	61.6	40.4	16.3
Total	1069563	169070	123579	27732	1389944
%	100.0	100.0	100.0	100.0	100.0

Table 4
Sources of Revenue
Ontario University Sector, 1979-80
(\$ thousands)

<u>Source</u>	<u>Operating Non-Credit Trust & End.</u>	<u>Sponsored Research</u>	<u>Ancillaries</u>	<u>Capital</u>	<u>Student Assistance</u>	<u>Total</u>
Ontario	142762	28617	70	16497	46870	234816
%	13.6	16.9	0.1	59.5	53.6	16.1
Federal	675169	91481	6	4	23705	766660
%	64.1	54.1	0.0	0.0	27.1	54.1
Municipal	251	388	-	-	-	639
%	0.0	0.2	-	-	-	0.0
Total Govern.	818182	120486	76	16501	70575	955245
%	77.7	71.3	0.1	59.5	80.7	70.2
Fees	160717	-	47389	39	-	208145
%	15.3	-	38.3	0.1	-	14.3
Other	73796	48584	76114	11192	16868	226554
%	7.0	28.7	61.6	40.4	19.3	15.5
Total	1052899	169070	123579	27732	87443	1460519
%	100.0	100.0	100.0	100.0	100.0	100.0

AUCC RESPONSE TO THE TASK FORCE REPORT ON
LABOUR MARKET DEVELOPMENT IN THE 1980s

Introduction

The AUCC is disturbed by the restricted view of the role of universities taken by the Task Force on Labour Market Development in the 1980s. Universities are certainly concerned with the employment future of their students but insist that the "training" for future employment is an inseparable component of the student's total education. In responding to the highly qualified manpower needs of the nation, the universities' role is to develop graduates with the flexible intellectual competence to respond to a variety of employment demands and to be able to respond to changes in these demands.

We are concerned by the underlying theme of the conclusions and suggestions of the Task Force, reflected by a statement in the budget document Fiscal Arrangements in the Eighties - Proposals of the Government of Canada (November 1981, page 39):

concerted and sustained efforts are required to avoid university and college graduates finding themselves unemployed because of an oversupply of their particular skills, while industrial expansion is hampered by shortages of other skills.

We must point out that the employment record of university graduates, in both the short term and the long term, is excellent. We note the reference to "particular skills" but, as we have stated above, with the exception of a

few professional programs whose graduates require education specific qualifications, most of our students graduate with general and broadly useful intellectual skills rather than narrow, specific skills.

We note that the report of the Task Force on Labour Market Development in the 1980s states on its cover that the report is a contribution to a process of consultation with provincial governments and organizations representing different elements of the private sector. The universities of Canada, through the AUCC, are pleased to have the opportunity to respond to the report, particularly those aspects of the report concerned with the role of universities in providing training for highly skilled members of the labour force. Universities have a keen interest in responding to the report on several grounds. Highly qualified workers, most of whom have experienced two or more years of postsecondary education in Canada, now constitute some 20-35% of the labour force, depending on the exact definition selected. Universities, as in the past, continue to accept, as one of their major tasks, preparing their students for employment requiring a high level of intellectual competence and skills. As the Secretary of State noted, when he addressed the AUCC in June 1981 pointing out the several national objectives to which universities contribute, the universities also play a role in helping define and shape the society in which employment of their graduates will take place. The universities are

naturally concerned then with government policies affecting the education and later employment of their students.

Chapter nine of the Task Force report entitled "Training to meet skill needs" deals, among other things, with the role of postsecondary institutions in providing training for highly skilled members of the labour force. Conclusions are reached and recommendations or suggestions are made regarding the size and worth of the university enterprise, the distribution of disciplines within it, funding allocations and mechanisms and other aspects of higher education. We believe that some of the conclusions are at least questionable if not in error and some of the proposals for action, if acted on by government and others, would have an injurious impact on Canadian universities and ultimately on Canadian society. In the sections that follow we will express and explain our concerns with some of the approaches, conclusions and suggestions described in the report of the Task Force.

Universities are More than Training Institutions

It must always be remembered that, with all their variation in size and educational programs, Canadian universities have certain common basic elements. Each university has a basic core element. The task of this core element is intellectual growth fostered by research, scholarship and teaching. This core element provides the avenues by which students, faculty and any others who can participate pursue basic inquiries into the nature of man, his thinking and creative processes, the nature of his social interactions and attempts to ever more fully and accurately understand and explain his total environment.

In addition to the core element, most Canadian universities have related and

closely associated elements which include the professional faculties and schools. These associated elements depend for many values, ideas and philosophical approaches on the core element and in turn contribute through their special practical concerns and contacts to a continuing revitalization of the core. The best and most successful of these associated elements combines intellectual development based on core values with the development of professional skills needed by a student to enter upon a professional career. As an example, the education of an engineering student should emphasize the ability to think and to state and solve problems. The problem examples should be drawn from the field of engineering, but the emphasis should be on "how to think" - the thinking skills will always be needed, the particular engineering problems change.

The university, then, combines its core undertaking which is concerned with universal ideas and values, with its associated elements which add a dimension concerned with development of intellectual career or employment skills. In a similar way, instructional programs for students are dependent upon faculty integrating the functions of research, education and training. We believe that to become highly qualified manpower, the student must be imbued with an understanding of the research quest, the broad intellectual development gained through a good education and the appropriate and important skills gained through the training component of his university experience.

Because education and training are inseparable components of a student's learning experience at a university, one cannot practically support only the training component of an educational program. Similarly, because of the symbiotic relation between the university's core element and its associated professional faculties or schools, there are severe limitations

on the effectiveness of increased support for associated professional programs if the core element is not also supported.

The Limitations of Manpower Planning

The Task Force recommendation for "significant reallocation of resources within the postsecondary system" (p. 157) implies that existing projections of occupational demand for highly qualified manpower are sufficiently precise and accurate to be used in detailed planning of university programs. However, the tentative nature of such projections are acknowledged earlier in the report.

The Task Force makes several references to the lack of information on which to base manpower planning. We note for example:

In the case of demand for and supply of workers to particular occupations, our information is incomplete for both past and future periods. With respect to the numbers of people employed in particular occupations in recent years, we are forced to estimate the occupational distribution of employment within industries on the basis of information collected in the early 1970s. On the supply side we have very little information on the amount of emigration by occupation and we have none on the extent to which inter-occupational mobility has occurred. (p. 65)

The report of the Parliamentary Task Force on Employment Opportunities for the '80s, Works for Tomorrow, specifically excludes occupational projections.

The evidence presented to us by experts strongly suggests that the data currently available are poor, and the methodology not sufficiently well developed to provide useful projections of these variables. Available projections are not by themselves useful for policy-making

since there are no accurate projections of the supply of people to different occupations. It is therefore not possible to use them alone to point out potential job shortages and surpluses of manpower. (p. 37)

Models like COFOR, developed by the Department of Employment and Immigration, are rejected by the Parliamentary Task Force since they do not incorporate the adjustments that employers and workers make to changing conditions. Thus, their forecasts are not very useful in decision-making, and they may seriously mislead planners and individuals. (p. 57)

In Labour Market Analysis with Canada: Macro-economic models (Toronto 1980) David K. Foot outlines some limitations of the current generation of occupational models. These include:

1. lack of accurate data on existing stocks of persons in occupations and fields of study;
2. lack of data on interoccupational and interfield-of-study mobility;
3. use of fixed share coefficients of occupational mix by industry;
4. insufficient incorporation of feed backs between supply and demand. (pp. 102-107)

Although projections of supply and demand can be made with some accuracy for the medium-term for certain highly education specific occupations (medicine, dentistry, law, for example) past experience shows that university educated people are highly flexible and adapt readily to changing labour markets. The 1973 Statistics Canada survey of highly qualified manpower revealed that there is a wide variation in the extent to which occupations are education specific. Existing models are too rigid to incorporate all the inter-actions and substitutions that take place.

Demand for some disciplines, such as engineering, is also largely determined by economic events that cannot always be predicted four or five years in advance. For example, the timing of major energy projects is a critical component of engineering demand projections. Delays or cancellations of these mega-projects could dramatically alter projections in a short time.

Recognizing these problems, the Canadian Engineering Manpower Council advised the Task Force against a comprehensive planned approach.

The message we wish to bring is that it is naive to try to forecast in any detail how many electrical engineers or chemical engineering technologists we shall need, or worry too much about fine-tuning our manpower supply, until government and industry work out more long-term strategies for our economic development.

The AUCC is concerned that the Task Force on Labour Market Development for the 1990s assumes that occupational demand and supply modelling is in a more advanced state of development than in fact is the case.

Some Criticisms of Task Force Approaches, Conclusions and Suggestions

1. Problems of analysis

The two fundamental conclusions of the Task Force report regarding postsecondary education are succinctly stated as follows:

The Task Force has found evidence from analysis of Canadian and foreign cost/benefit studies that the overall scope of the post-secondary sector is too large and has concluded from this that it could be contracted somewhat, with resources modestly reallocated from education, general arts and sciences and social work, to engineering, business, economics and technology. (p. 154)

These conclusions are based largely on the work of David Stager who prepared a working paper for the Task Force entitled "The Federal Government's Role in the Development of Highly Qualified Manpower". It should be noted that while accepting Stager's analysis of the cost/benefits of postsecondary education, the Task Force rejects the author's conclusions. For example, Stager remarks that: "Although the returns to education have declined in the past decade, there is not sufficient reason to argue that there has been 'overinvestment' in education". Indeed, Stager goes on to note that: "In fact there may already have been an excessively strong reaction (in postsecondary financing) to the unexpected 'dip' in university enrolments in the early 1970s".

Notwithstanding the inconsistency between the Task Force and its principal advisor on this subject, one must still question the relevance of such cost/benefit analysis to resource allocation decisions in the postsecondary sector. It should be understood that the methodology traditionally employed for cost/benefit analysis of the postsecondary enterprise is largely dependent on the potential earnings of graduates. Not surprisingly, therefore, net returns are highest for medicine, dentistry and law. Should those supporting this methodology believe that more resources should be directed toward these disciplines, then it would follow that a similar decision should be made with respect to engineering and commerce which also have above average returns. Conversely, if a shift of resources toward medicine, dentistry and law seems inappropriate, the methodology can hardly be said to sustain a shift to certain pre-selected disciplines. The Task Force does admit that "... the evidence from cost/benefit analysis is not strong..." and goes on therefore to consider other indicators.

It cites evidence from a recent Statistics Canada study (Job Market Reality for Recent Graduates) to the

effect that graduates from university professional programs have low rates of unemployment and underemployment and higher salaries. Again, this is not a surprising finding (though the data on underemployment are suspect); neither is it a piece of evidence that would justify a reallocation of resources to professional disciplines. What is ignored is that entrance to professional programs tends to be highly selective. Salary data from the same study for the top 10% in each field show that the most successful arts and science graduates compare favourably with graduates of more vocationally oriented university programs. A thorough critique of Job Market Reality for Recent Graduates has been published by the Council of Ontario Universities. Further, nowhere in the Task Force's analysis are the data on university graduates placed in the perspective of overall youth employment. University graduates have consistently had a significantly better employment record than youth emerging from any other educational level.

The Task Force next goes on to cite relative earnings by occupation as "...another indicator of the effectiveness of post-secondary education in meeting labour market demand". Average starting salaries of bachelor's degree graduates are compared with average industrial earnings in Canada for the period 1965 to 1977. As Paul Davenport notes in his paper "Federal Funding of University Education", one cannot legitimately compare starting salaries of university graduates with the salaries of experienced workers. Examining the average earnings of all university graduates relative to the average earnings of secondary school graduates, Davenport notes little change between 1959 and 1978.

Finally, the Task Force asks what imbalance in the labour market would occur if one were to assume "... the current level and mix of post-secondary training." Such assumptions are inappropriate in that they ignore the demonstrated ability and willingness of the post-secondary sector to adapt to changing circumstances. Citing Ontario data (because they are readily available), one might note that despite financial difficulties and static overall enrolment, university output in commerce and administration in Ontario from 1977 to 1981 increased by 60.7%, in engineering by 35.1% and in computer science by 34.6%. Without any further increase in intake, enrolment in the pipeline will give rise to further increases in output of 18.2%, 9.4% and 10.0% respectively during the next several years. The Task Force does not appear to have attempted to secure current data on which to base its conclusions.

While recognizing the shortcomings of each of these four approaches "... for assessing the best allocation of resources at the post-secondary level...", the Task Force nonetheless believes that, taken together, they do allow the reader to reach some fundamental conclusions. Having examined these shortcomings explicitly - something the Task Force fails to do - one can hardly concur with their reasoning.

2. Universities "production function"

One flaw in the report is the apparent failure to recognize the nature of a university. It is a very complex institution subject to many independent human decisions - more akin to a complex organism than a well designed machine with inter-changeable parts. There is not a simple relation between changes in "inputs" to a program and its "outputs". To double the number of faculty in a department will not double

the number of graduates, not only because of the timelag between first year students and graduates, but also because one must have students who are interested and have certain basic skills. Even financial support, which may increase interest, cannot guarantee students with appropriate basic qualifications. Another concern of universities is that the wrong kind of external pressures may induce a potentially outstanding biologist to become a mediocre MBA, or a potentially superior historian to become an incompetent physicist.

3. University autonomy

Both on grounds of right and on grounds of effectiveness, one can question significant intrusions of government and its agencies into the planning and management of universities. It is not that universities are unwilling to serve society or accept good advice. We think it important to realize that our universities, with a long tradition of autonomy, have developed procedures and approaches which recognize and take advantage of their complexity. Administrators and faculty of a university require autonomy, not as a privilege but to give them the flexibility to use the very eccentric characteristics of universities which are their strength in order to provide to society the multi-faceted benefits which an autonomous university can provide. We sincerely believe that a university under external direction will not have the flexibility or realize the contributions of its internal constituency as well as the self-governed autonomous university.

Recapitulation and conclusion

We recognize the complexity of the mandate given the Task Force and are impressed by the wide range of issues that it considered. We recognize that relating the highly qualified labour market to the education and "training"

required for that market is probably much more difficult to do than relating the labour market for workers in the trades or clerical workers to their training needs. We suggest also that the Task Force was probably aiming its recommendations primarily at targets other than the university sector. There are a number of suggestions affecting the planning and operations of universities which, with some reservations, we support.

Better information on labour markets

In principle we can only applaud the concept of providing, on an ongoing basis better, more detailed information about future employment opportunities and needs. While the future will always provide surprises, an information service that establishes a reasonably successful track record could certainly be of aid to students making decisions about their educational programs and to institutions trying to respond responsibly to changing student demands and the changing demands of the labour market.

We must express, however, three reservations about the proposal to provide sound, useful and usable information on labour markets. At present information is woefully incomplete and a much expanded, better planned and funded program will be necessary along with the assurance of cooperation of many in the private sector that has not been forthcoming in the past. The second concern is the need to develop much more effective communication of labour market information. Even complete information, if it is to be useful and usable, must be provided to students well before they enter postsecondary institutions. Our third concern is that the agency which directs or even encourages students into a given field of employment bears some responsibility that that employment then be available - is government prepared to assume that responsibility?

Labour market experience for students

The Task Force suggests providing some funding to assist in the special costs of administering cooperative programs. Certainly it is the experience of universities that there are significant special costs associated with these programs. We believe that wise occupational choices by students can be greatly enhanced by their experiences in the labour market during their student years. We suggest that not only do cooperative programs serve this end but that all forms of summer employment or work-study do so also. Perhaps funding assistance to give students labour force experience of all kinds should be considered.

Program funding through increased student fees

The Task Force suggests that to encourage institutions to be more adaptive there should be greater incentives to respond to student demand and that students should have more "clout" in exercising that demand. It further suggests that this "clout" would be ensured if more of the funding of institutions was through student fees which were balanced by significantly greater federal aid to students. We are puzzled by their suggestion as an aid to more rational development of supplies of highly qualified manpower for our labour market. The individual student, we would suggest, is less concerned with or aware of problems of shortages or surpluses of highly qualified manpower than are those responsible for programming in the universities. Universities have always responded to student demand but with the proviso that they would be remiss if they did not acquaint their students with the relationship between their choice of educational program and employment opportunities. We suggest also that the Task Force is inconsistent in

suggesting that, at one and the same time, the demands of the labour market rather rigidly determine the balance of university programs and that individual students by their individual choices, which universities generally support and respond to, also determine the balance of university programs.

Research

The Task Force speaks of the value of and the need for increased research support. The universities of Canada heartily agree. We would only point out that much of university research is done by faculty in the basic arts and sciences. It is inconsistent to recommend decreased support for the core arts and sciences and increased funding for research; if research is to be effective in the universities it requires researchers and the basic infrastructure for research found to a considerable extent in the arts and sciences.

The role of universities

Universities do recognize their major role in providing the highly qualified manpower required for socio-economic development of the country and its various regions and they do readily acknowledge the need to respond to changes in demand for knowledge and skills of a type that can most appropriately be acquired through a university program. We have only to compare program offerings at Canadian universities today with those of five or ten years ago to realize that universities have responded not only to the internal dictates of their particular disciplines but to the changes in demand that come from the wider society. They will also certainly continue to do so to the extent permitted by their limited resources and their obligation to engage as well in research and education.

The need for wide consultation

The Task Force states that, given the limited time of its enquiry, it could not examine many of those provincial and private sector practices which impinge on the functioning of the labour market and so has confined its work to those areas that can be influenced by federal policies and programs. We believe this to be a serious limitation of the report. We must indeed express our grave concern that many of the suggestions of the report suffer from a lack of consultation with the educational institutions responsible for preparing highly qualified manpower. We believe that suggestions for actions affecting the universities which, in our opinion, do not improve, and may even decrease their competence to provide highly qualified workers not be accepted as the basis for federal government policies without much wider and deeper consultation than was possible for the Task Force in preparing its report.

1981.11.19

CRITIQUE OF THE REPORT OF THE PARLIAMENTARY TASK FORCE ON
EMPLOYMENT OPPORTUNITIES FOR THE '80s: WORK FOR TOMORROW

Introduction and Background

Work for Tomorrow, the final (October, 1981) report by the Special Parliamentary Committee on Employment Opportunities for the '80s, is both similar to and significantly different from Labour Market Development in the 1980s, the (July, 1981) report of the Task Force on Labour Market Development.

Both reports cover some of the same ground, since there is some commonality in terms of reference. The Parliamentary Task Force headed by Warren Allmand "was given a mandate to examine and report on shortages in skilled trades and higher-skill occupations in Canada in view of economic development requirements of the 1980s and to recommend initiatives that the committee saw fit to review existing federal policies and programs intended to deal with skill shortages. . . ." (p. 127). Analogously, the Task Force coordinated by David Dodge and under the Minister of Employment and Immigration was "to review trends likely to affect Canadian labour markets in the 1980s and to consider the implications for the direction of federal government policies and programs affecting the operation of those markets" (p. iii).

A principal difference between the two reports stems from the differing nature of their inquiry. The Dodge report, put together by a group of specialists, is essentially an analytical document--replete with graphs, charts, and data--and as such its conclusions are subject to critique based on observed strengths or deficiencies in its analysis. The Allmand report, on the other hand, takes a different approach. It generates some 186 recommendations "based on evidence from the grass roots" (p. 5). To quote from the report: "In carrying out [its] mandate it was felt that the Task Force should direct its immediate attention to listening to private sector and community groups rather than becoming yet another academic study organization doing more research on defining problems. The Task Force's goal was to take the Parliament to the people with a view to finding out what they believe is wrong with our present programs, policies and laws and to find out their suggestions regarding what we can do to improve the situation" (p. 128).

Thus, in evaluating the Allmand report as it affects universities, one is struck at the outset with the realization that it contains little in the way of direct evidence to support most of its claims and recommendations. The report itself establishes no clear link between its rather meager analytical content, the extensive testimony from various university and non-university individuals, groups, and associations (published separately in "Minutes and Proceedings"), and its subsequent statements and recommendations relevant to higher education. Nevertheless, it cannot be dismissed out of hand: a response is desirable and even necessary, since some of its recommendations, if implemented, could have significant consequences for Canada's universities.

Reallocating University Resources in the Dark

The essentially schizophrenic nature of the Allmand report is highlighted by the contradiction between the laudable cautionary tone of certain portions (cautionary as to the ability to measure the degree of imbalance, present and future, in labour markets), and its subsequent presentation of unqualified policy recommendations. We are concerned here, of course, only with those recommendations that affect higher education. Consider these four:

Recommendation 58: Governments and post-secondary institutions should attempt to reallocate resources towards programs offering the greatest employment opportunities in the '80s.

Recommendation 68: Governments, educational authorities and private-sector donors should review their funding for education and training to make sure that those faculties and disciplines that will be in the greatest demand during the '80s will benefit most from their funding.

Recommendation 83: The Federal Government should reexamine all its programs for scholarships, fellowships, bursaries and the funding of university chairs, in order to direct some programs more specifically to the industrial and business needs of the country and to occupations where there are skill shortages.

Recommendation 84: Government should encourage the private sector to reexamine its scholarship and bursary programs with the same objective as in Recommendation 83.

Now, let us set aside for a moment the peculiarly limited view of the university's role in society which seems to underlie these recommendations. Are their supposed benefits likely to be realized? It is clear, and presumably the Task Force would agree, that one factor alone--the long lead time (at least 3 to 7 years) characteristic of university training--requires as a minimum condition that skill shortages be accurately identified and forecast if the proposed major restructuring of priorities is to make an impact that is effective and consistent with the intent of the policy. Yet, incredibly (given the recommendations), the report itself is extremely pessimistic in regard to the probability of successfully identifying the target--in particular future skill shortages--with any degree of precision. Thus:

Statistical data on employment and earnings for different occupations are not published regularly in Canada (p. 116):

The past is not necessarily the best guide to the future, and we have tried to emphasize that great uncertainty exists about future developments (p. 36):

The extent of labour market pressure will depend entirely on the timing of planned investment projects and on whether or not any major projects are postponed or cancelled. At this stage, and in the absence of much more detailed and extensive analysis, it is difficult to determine whether or not any labour shortages that arise will exist over the short term or for a number of years (p. 44);

We have not . . . tried to produce projections of the supply and demand of manpower in different occupations in 1990. The evidence presented to us by experts strongly suggests that data currently available are poor, and the methodology not sufficiently well developed to provide useful projections of these variables. Available projections are not by themselves useful for policy-making, since there are no accurate projections of the supply of people to different occupations (p. 37);

It is easy to see that manpower requirements projections are of little use for planning education and training programs without some knowledge of the number of people drawn from other sources. However, no data are available to project such movements (p. 116);

We were cautioned that it was impossible, especially in our free society, to forecast precise needs in the various occupations three to five years in advance--even if we had the best forecasting system available and all the needed information (p. 120).

What, then, is one to make of an accompanying set of recommendations that urge a significant reallocation of scarce educational resources --with all the major long-term adjustments that would necessarily follow--so as to alleviate perceived skill shortages which, in any event, may or may not exist a few years down the road? Of course universities should respond to market forces by training highly-qualified manpower to take up skilled positions within the work force; universities have done that historically with a great deal of success, and will continue to do so. Further, existing shortages in the professions can be identified--admittedly without a great deal of precision--and government in its wisdom may wish to provide supplementary funding so as to widen obvious bottlenecks, perhaps by encouraging qualified students to specialize in certain disciplines. However, given the report's own view that "what emerges from a review of briefs, testimony, and external material, is the apparent incompleteness and scarcity of information on opportunities for Canadian labour in the '80s, '90s, and beyond" (p. 46), the recommendations that, in effect, universities should lock themselves in now to a system of priorities based on apparent present and anticipated future labour market shortages seem ill-conceived.

Unemployment, Mobility, and a Broadly-Based University Education

The recommendations seem ill-conceived for another reason, related to the Task Force's view of the proper function of the university, and the relative utility of a general university education as compared to specialized training.

According to the Task Force, the principal function of the university, apparently, should be to produce narrow specialists who fit neatly into well-defined vacancies in the work force, as needed. Thus:

It should be noted [with concern?] that a good many of those in advanced education are taking courses which are interesting and worthwhile but are not necessarily related to our economic and industrial needs or to the individual's best opportunities for employment (p. 67):

and,

Many educated young people are underemployed in dead-end minimum-wage jobs unrelated to their formal education and training. . . much of the educational system is geared to turning out young people educated in areas for which there is no need (p. 35).

Clearly, and especially in light of the report's own observations as to the uncertainty of future occupational demands, the efficiency of labour markets is enhanced by occupational movement, as labour moves over time to those occupations that offer the greatest returns. In this regard, it is important to recognize that a university education tends to promote certain skills that increase mobility between occupations. Contrary to the Task Force's apparent view, which seems to deplore or at best tolerate the generality in post-secondary education, it can be the skills developed by that very generality that turn out to be the most useful, both in terms of improving the overall quality of life for the graduate, and making a positive impact on productivity for the employer. These skills have to do with such things as developing the ability to ask the right questions; to think things through in a rigorous, rational manner; to apply the general as well as specific methodology of successful decision-making and evaluation, whether in the humanities or the sciences. In other words, we are concerned here with skills that widen horizons, not limit them. These are the skills that employers seek and expect from university graduates, and these skills have general applicability, in the sense that they are useful in a wide variety of occupations.

The assertion that a substantial proportion of university graduates is underemployed and dissatisfied with their occupation has been heard before. In fact, it is a probable fiction perpetuated by the media's fixation with the "Ph.D. cab driver," and a paucity of hard evidence. What evidence there is suggests the contrary. For example, the 1979 M.C.U. Employment Survey notes that while a significant proportion

of full-time employed Ontario graduates were in first jobs where the degree specified for employment was lower than the one held, 71 percent were "very satisfied" or "quite satisfied" with their salary, 67 percent with their opportunity for advancement, and 78 percent with their opportunity for personal initiative--hardly an indication of a substantial mismatch between education and employment (unfortunately, comparable figures are not available for the rest of the labour force). Further, results of a Statistics Canada survey of 1976 doctoral degree recipients from Canadian universities indicate that in 1978 only 4 percent considered their employment "definitely not suitable" in relation to their education, and 77 percent were "satisfied" or "very satisfied" with their jobs.

Recommendations Specific to Engineering, Management, and Nursing

Within the rubric of recommendations directed at "Special Groups--Special Problems" in Chapter 11, the Allmand report focusses on three university programs: Engineering, Management, and Nursing. Recognizing that all signs point to a present shortage of engineers, with the prospect of a future shortage of unknown magnitude (estimates in the report itself range from 400 to 2000 per year), the Task Force wisely, in our view, makes recommendations most of which are short-term, do not require a significant reallocation of resources, and/or are relatively easy to reverse. For example, Recommendation number 136 says that the salaries of engineering professors should be determined by the market; number 137 that universities should consider using more part-time teachers of engineering; number 138 that industry should be encouraged to invest more in engineering research and development at the university level; number 141 that young people and especially women should be encouraged to consider engineering as a career; and number 143 that foreign engineers should be recruited to train Canadians if urgently needed. Perhaps the only controversial recommendation is number 139, which urges that "a redistribution of seats allotted to engineering be considered." Such a redistribution would in fact take place, as a matter of course, with a relative increase in the number of students who choose engineering as an area of concentration.

Alluding to an existing "crisis" in management (reflected, perhaps, in the only statistic [unreferenced] provided: "200 vacant teaching positions in Canadian management faculties but only about 20 Ph.Ds graduating annually" [p. 45]), most, but not all, of the Task Force's recommendations would probably not be significantly disruptive (again--where applicable--depending upon the amount, duration, and source of proposed expenditure). Recommendation number 144 urges that, "in the national interest," education and research in management be expanded (How much? How long? How funded?); number 146 that additional public and private funds for management research be directed at Canadian needs; number 147 that more innovative and flexible management education programs be introduced; number 148 that more professorial chairs in faculties of management be created; number 149 that a national conference of representatives from university management faculties,

junior colleges, technical institutes, business, and labour take place to "deal with the present crisis in management education"; number 150 that regional workshops of representatives from management faculties and relevant organizations be formed to establish contacts and exchange information; and number 151 that additional federal funds be made available to encourage student enrollment in post-graduate faculties of management.

However, Recommendation number 145 states that "universities should allocate more of their financial and human resources to the improvement of business and management education. Also, special funds should be designated for programs to increase the number of Ph.D.-qualified professors teaching in Canadian faculties of Management and Administrative Studies." Again, this suggests the imposition of real costs as less-favored programs are cut back or eliminated, with uncertain benefits, and all justified by a perceived shortage of a particular skill in the labour force. To reiterate, for reasons outlined above, in the absence of additional funding reallocation should follow, not lead, the increase in relative demand for business programs that would take place as students respond to the increase in expected return to be earned from an education in management.

Both of the two recommendations applicable to the university training of nurses seem desirable: Recommendation number 152 is that training, retraining, and upgrading programs in nursing should be improved so as to encourage nurses to stay in nursing, and re-entry should be facilitated; number 152 urges "special emphasis . . . on post-secondary and graduate studies in areas of specialized nursing care, including geriatrics, psychological and chronic care."

Conclusion

If, despite the lack of useful information as to future labour market shortages, the federal government should opt for a policy of expending additional resources to increase the supply of university-trained occupation-specific labour, that intervention should be of limited duration, and narrowly focussed on obvious bottlenecks. Conceivably, this could involve, for example, funding for the required additional physical plant and equipment (perhaps on a shared basis), a development plan to identify and educate potential candidates to teach at the university level in a particular area, and additional fellowships and scholarships to qualified students as an inducement to pursue a particular career path.

However, it does not follow that universities should in general plan their graduate and undergraduate enrollment on the basis of anticipated needs generated by the economy. We should learn from countries like Great Britain, which has flirted with the idea of such intervention since the early 1960s. A recent report in The Times Higher Education Supplement (11/11/80), "Higher Education and the Employment of Graduates," notes that "where detailed planning has been undertaken . . . the exercise has not been successful," and that "past experience of planning for highly qualified manpower does not suggest that attempts

to produce more graduates in certain disciplines on the basis of assertions that these are the graduates the country needs have much chance of success." The report sees more merit in providing the best forecast information possible to guide potential entrants than in any form of manpower planning to determine the shape of the higher education system.

Finally, it would be extremely inefficient and indeed harmful in terms of the impact on capital costs, the recruitment and retention of superior faculty and staff, and an academic environment conducive to good teaching and research for universities, to gear up or wind down in response to transient shifts in demand for graduates. It is worth ending with a quote by Sylvia Ostry (Labour Economics in Canada, pp. 128-129) on the need for some stability and a long-term view: "there is the danger that the swing of the pendulum, from 'higher education is a panacea for all our ills' to 'higher education is a disaster,' will lead to ill-considered actions (an excessive 'vocation-alization,' for example) which could seriously impair the role of the universities in 'educating'--imparting the knowledge and wisdom which is essential to a civilized society in an increasingly troubled world."